

## AN INVESTIGATION ON HOSPITAL SOLID WASTE MANAGEMENT IN IRAN

FARZADKIA M.<sup>1</sup>EMAMJOMEH M.M.<sup>2</sup>GOLBAZ S.<sup>3,\*</sup>SAJADI H.S.<sup>4</sup><sup>1</sup>Department of Environmental Health Engineering

Faculty of Health, Iran university of Medical Sciences, Tehran, Iran

<sup>2</sup>Social Determinants of Health Research Center

Qazvin University of Medical Sciences, Qazvin, Iran

<sup>3</sup>Department of Environmental Health Engineering, Faculty of Health

Tehran university of Medical Sciences, Tehran, Iran

<sup>4</sup>Health Management and Economics Research Center

Isfahan University of Medical Sciences, Isfahan, Iran

Received: 17/09/2015

Accepted: 30/10/2015

Available online: 04/11/2015

\*to whom all correspondence should be addressed:

e-mail: [golbazs@gmail.com](mailto:golbazs@gmail.com)

## ABSTRACT

The integrated hospital solid waste management emphasizes the need to conduct a survey based on a standardized method that equally be analyzed at national level. This study aimed to test the usability of a national tool to do integration data analysis of hospital waste management status. Then, a typical study was conducted in Karaj hospitals. Also, critical analysis of hospital's solid waste management aspects was done, and shortcomings in the aspects were identified. The pilot study results showed that the daily per capita waste generations were reported to be  $4.2 \pm 0.49$  kg/available bed,  $5.8 \pm 0.63$  kg/occupied bed, and  $10.3 \pm 0.9$  kg/inpatient. The names of the hospitals were omitted when they were named from H<sub>1</sub> to H<sub>8</sub>. So the highest and lowest daily waste generation rate were  $5.5 \pm 0.35$  and  $2.6 \pm 0.78$  kg/available bed in H<sub>7</sub> and H<sub>3</sub> hospitals, respectively. In this study, total infectious wastes per capita were reported to be  $2.3 \pm 0.39$  kg/available bed/day,  $3 \pm 0.5$  kg/occupied bed/day and  $5.2 \pm 0.84$  kg/inpatient/day. Furthermore, the averages per capita of total general waste were  $2 \pm 0.4$  kg/available bed/day,  $2.8 \pm 0.51$  kg/occupied bed/day and  $5.1 \pm 0.8$  kg/inpatient/day. Analysis of the Karaj hospital waste management status showed statue of hospital waste management in 88% of hospitals were ranked moderate when others were achieved to be poor by 12%. The hospital waste management had been evaluated poor in term of collection, transportation and manpower aspects, moderate in the separation and temporary storage aspects and good in the disposal aspect. It was also found that the MOHME tool is appropriate tool to investigate the status of waste management in hospitals.

Keywords: Hazardous waste, Hospital waste, Waste management

## 1. Introduction

One of the major sources of waste generation are produced by various spectrum of health care providers especially hospitals (Sabour et al., 2007, Wong et al., 1994). Due to having pathogenic microbial factors, hazardous chemical and radioactive substances as well as sharp components, these materials are considered hazardous waste (Adegboye et al., 1994, Prüss et al., 1999). More than ever the risk to the natural environment caused by these materials requires a strict and rigorous supervision in the process of collection, transportation and disposal. Obviously, any negligence in the management of these wastes